[Billing Code 4140-01-P]

DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

Prospective Grant of an Exclusive Patent License: Development and

Commercialization of Cell Therapies for Cancer

AGENCY: National Institutes of Health, HHS.

ACTION: Notice.

SUMMARY: The National Cancer Institute, an institute of the National Institutes of Health, Department of Health and Human Services, is contemplating the grant of an Exclusive Patent License to practice the inventions embodied in the Patents and Patent Applications listed in the Supplementary Information section of this Notice to Ziopharm Oncology, Inc. ("Ziopharm"), headquartered in Boston, MA.

DATES: Only written comments and/or applications for a license which are received by the National Cancer Institute's Technology Transfer Center on or before [INSERT DATE 15 DAYS FROM DATE OF PUBLICATION OF NOTICE IN THE FEDERAL REGISTER] will be considered.

ADDRESSES: Requests for copies of the patent applications, inquiries, and comments relating to the contemplated Exclusive Patent License should be directed to: Andrew Burke, Ph.D., Senior Technology Transfer Manager, NCI Technology Transfer Center, 9609 Medical Center Drive, RM 1E530, MSC 9702, Bethesda, MD 20892-9702 (for business mail), Rockville, MD 20850-9702; Telephone: (240)-276-5484; Facsimile: (240)-276-5504; E-mail: andy.burke@nih.gov.

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SUPPLEMENTARY INFORMATION:

Intellectual Property

GROUP A

E-029-2019: HLA Class II-Restricted T Cell Receptors Against RAS with G12R Mutation

1. US Provisional Patent Application 62/795,203, filed January 22, 2019 (E-029-2019-0-US-01).

GROUP B

E-135-2019: T Cell Receptors Recognizing R175H or Y220C Mutation in P53

 US Provisional Patent Application 62/867,619, filed June 27, 2019 (E-135-2019-0-US-01).

The patent rights in these inventions have been assigned and/or exclusively licensed to the government of the United States of America.

The prospective exclusive license territory may be worldwide, and the fields of use may be limited to the following:

Fields of Use Applying to Intellectual Property Group A

"Development, manufacture and commercialization of autologous, peripheral blood T cell therapy products engineered by transposon-mediated gene transfer to express T cell receptors reactive to mutated KRAS, as claimed in the Licensed Patent Rights, for the treatment of human cancers. Specifically excluded from this field of use are, a) retrovirally-engineered peripheral blood T cell therapy products for the treatment of human cancers, and b) CRISPR-engineered peripheral blood T cell therapy products for the treatment of human cancers.

Development, manufacture and commercialization of companion diagnostics approved or cleared by the FDA or equivalent foreign regulatory agency for Licensee-proprietary T cell therapy products."

Fields of Use Applying to Intellectual Property Group B

"Development, manufacture and commercialization of autologous, peripheral blood T cell therapy products engineered by transposon-mediated gene transfer to express T cell receptors reactive to mutated P53, as claimed in the Licensed Patent Rights, for the treatment of human cancers. Specifically excluded from this field of use are CRISPR-engineered peripheral blood T cell therapy products for the treatment of human cancers.

Development, manufacture and commercialization of companion diagnostics approved or cleared by the FDA or equivalent foreign regulatory agency for Licensee-proprietary T cell therapy products."

Intellectual Property Group A is primarily directed to isolated T cell receptors (TCRs) reactive to mutated Kirsten rat sarcoma viral oncogene homolog (KRAS), within the context of several human leukocyte antigens (HLAs). Mutated KRAS, which plays a well-defined driver role in oncogenesis, is expressed by a variety of human cancers, including: pancreatic, lung, endometrial, ovarian and prostate. Due to its restricted expression in precancerous and cancerous cells, this antigen may be targeted on mutant KRAS-expressing tumors with minimal normal tissue toxicity.

Intellectual Property Group B is primarily directed to isolated TCRs reactive to mutated tumor protein 53 (TP53 or P53), within the context of several HLAs. *P53* is the archetypal tumor suppressor gene and the most frequently mutated gene in cancer. Contemporary estimates suggest that >50% of all tumors carry mutations in *P53*. Because

of its prevalence in cancer and its restricted expression to precancerous and cancerous

cells, this antigen may be targeted on mutant P53-expressing tumors with minimal normal

tissue toxicity.

This Notice is made in accordance with 35 U.S.C. 209 and 37 CFR Part 404. The

prospective exclusive license will be royalty bearing, and the prospective exclusive

license may be granted unless within fifteen (15) days from the date of this published

Notice, the National Cancer Institute receives written evidence and argument that

establishes that the grant of the license would not be consistent with the requirements of

35 U.S.C. 209 and 37 CFR Part 404.

In response to this Notice, the public may file comments or objections. Comments

and objections, other than those in the form of a license application, will not be treated

confidentially and may be made publicly available.

License applications submitted in response to this Notice will be presumed to

contain business confidential information and any release of information from these

license applications will be made only as required and upon a request under the Freedom

of Information Act, 5 USC 552.

Dated: September 26, 2019.

Richard U. Rodriguez,

Associate Director,

Technology Transfer Center,

National Cancer Institute.

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